

# TRENDS IN DRUG-INDUCED DEATHS IN AUSTRALIA, 1997-2018

**Authors: Nicola Man, Agata Chrzanowska, Timothy Dobbins, Louisa Degenhardt and Amy Peacock**  
**National Drug and Alcohol Research Centre**  
**University of New South Wales Sydney**

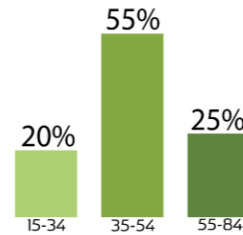
## Drug-induced deaths in Australia in 2018

**1,740**

There were 1,740 drug-induced deaths among Australians in 2018 (excluding deaths caused by alcohol and tobacco).



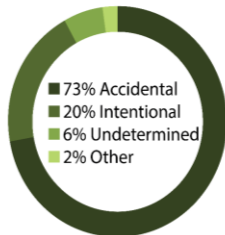
Around 2 in 3 were male and 1 in 3 were female.



55% of the deaths occurred among 35-54 year olds.



Around 7 in 10 deaths were in major cities, 2 in 10 in inner regional, and 1 in 10 in outer regional and remote regions.



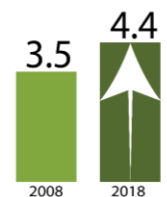
The majority of the deaths were accidental.

- 68% Opioids
- 58% Antiepileptic, sedative-hypnotic and antiparkinsonism drugs
- 27% Antidepressants
- 26% Amphetamines
- 22% Antipsychotics and neuroleptics

These are five drugs most commonly involved in drug-induced deaths.  
*Multiple drugs may be involved in a death*



There were 7 drug-induced deaths for every 100,000 Australians in 2018 (6 deaths in 2008).



There were 4.4 opioid-induced deaths for every 100,000 Australians in 2018 (3.5 deaths in 2008).

## Key Findings:

- Preliminary estimates indicate that there were 1,740 drug-induced deaths among Australians in 2018 (1,549 drug-induced deaths among those aged 15-64 years). This estimate does not include deaths where conditions related to alcohol or tobacco were the underlying cause of death.
- This number equates to nearly five drug-induced deaths per day in 2018, a similar figure to that observed in 2017 (1,795 deaths). It is also similar to the number recorded during the peak in deaths in 1999 (1,740 deaths).
- The rate of deaths in 2018 was 7.0 deaths per 100,00 people (9.5 deaths per 100,000 people aged 15-64). The rate of drug-induced deaths has been increasing since 2006 yet remains lower than the peak rate observed in 1999.

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## *Key Findings Continued:*

- Higher rates of drug-induced deaths were observed among males, but there has been a shift from younger (25-34) to older (35-54) age groups over the period of monitoring across both males and females. The gap in rate of deaths between males and females lessened with older age in 2018.
- In 2018, the majority of drug-induced deaths among Australians were deemed accidental (70%), although nearly one-in-five deaths (23%) were considered intentional.
- Excluding Northern Territory, the rates of drug-induced deaths in all other jurisdictions ranged between 6.3 and 9.9 per 100,000 people. There are important jurisdictional differences in drug-induced deaths in major city versus regional areas, with a higher rate of drug-induced deaths in major cities in Western Australia and South Australia and in regional areas in New South Wales and Victoria (noting fluctuations in these trends over time).
- Opioids were the main drug cited in drug-induced deaths (1,129 deaths in 2018). Indeed, they were noted as the underlying cause of 1,088 deaths (including 876 deaths deemed accidental).
- Natural and semi-synthetic opioids (e.g., morphine, oxycodone) have historically been the most commonly cited opioids in opioid-induced deaths. This has changed over the past two years, with the rate of opioid-induced deaths involving heroin converging with the rate of opioid-induced deaths involving natural and semi-synthetic opioids.
- When studying accidental deaths only, heroin is now the leading opioid underlying opioid-induced deaths. There have also been increases in deaths involving synthetic opioids (e.g., fentanyl, tramadol) over the past decade, although preliminary estimates do not support a further increase in 2017 and 2018.
- An increasing rate of deaths involving psychotropic medicines (e.g., benzodiazepines, antipsychotics) and non-opioid medicines used for treatment of certain pain conditions (e.g., pregabalin) is of concern. It is important to note that these medicines are often identified alongside other drugs (e.g., cases where opioids are the underlying cause of death and benzodiazepines are an associated cause of death).
- The rate of deaths attributed to amphetamines (e.g., methamphetamine, MDMA) increased substantially from 2011 to 2016; preliminary estimates do not support a further increase in 2017 and 2018. The number of cocaine-induced deaths remained relatively small (i.e., less than 20 deaths).

## Background

This bulletin reports on drug-induced deaths (i.e., deaths directly attributable to drug use) in Australia from 1997-2018 (**Panel A**). Data were accessed from the [Australian Bureau of Statistics \(ABS\)](#). Details of the [methods](#) are available for download; [this document](#) and the [ABS Explanatory Notes](#) should be read alongside this bulletin.

Data presented here reflect key findings for Australians of all ages unless otherwise indicated. We also report select findings for Australian adults aged 15-64 years as the population at greatest risk of experiencing these deaths. **Small numbers of deaths have been randomly assigned by ABS to protect the confidentiality of individuals** and may be suppressed where presentation of trends could be misleading. Zero values have not been affected by confidentialisation. The ABS undertake a revision process for coroner-certified deaths over a 3-year period. Accordingly, causes of death data for 2017 and 2018 are preliminary and subject to two further revisions; data for 2016 are revised and subject to another revision; data for 2015 and earlier years are final.

### Panel A. Terminology

- **Underlying cause of death (UCOD)** is the disease or condition which initiated the sequence of events resulting in death. There can be only one underlying cause of death.
- **Associated causes of death (ACOD)** are any other diseases or conditions that contributed to the death and are listed on the death certificate but were not deemed the underlying cause of death.
- **Multiple causes of death (MCOD)** include all causes (both underlying and associated causes), diseases and conditions reported on the death certificate.
- **Drug-induced death** includes all deaths where the UCOD indicates a substance-use disorder or direct harm due to selected substances (excluding alcohol and tobacco).
- **Opioid-, amphetamine- and cocaine-induced death** includes all deaths where the UCOD indicates a substance-use disorder or direct harm specific to that drug.
- **Drug-induced death by drug type** is where the drug of interest (e.g., benzodiazepines) may appear as UCOD or ACOD, noting that there may be other drugs coded to these fields and there must be a drug coded as UCOD. For example, a 'drug-induced death involving benzodiazepines' could comprise an opioid as UCOD and a benzodiazepine and alcohol as ACOD.

We provide estimates of drug-induced deaths directly attributable to use of *illicit drugs* (e.g., heroin), some *prescription medicines* (that may be prescribed to the individual or obtained via other means) and *medicines available over-the-counter*. These figures only include deaths where drugs have been deemed the underlying cause of death (**Panel A**). We have, however, identified drug-induced deaths where multiple drugs may also be coded as associated causes of death.

## Background Continued

The codes applied to identify cause(s) of death have limited specificity for drugs. Number of deaths may differ between organisations reporting on deaths due to the codes used (see [our methods document](#) for details of the codes used for our reporting).

These figures do not include deaths from accidents caused by being under the influence of a drug (e.g., motor vehicle accident). **We have not included deaths where conditions related to alcohol or tobacco comprise the underlying cause of death as they fall outside the scope of our monitoring.** We acknowledge the significant loss of life from these substances among Australians, and encourage readers to refer to the [National Alcohol Indicators Project](#), [ABS reporting](#) and [Australian Institute of Health and Welfare reporting](#) for further information on deaths and other harms related to these substances.

Where possible, we have reported on deaths attributed to opioids, amphetamines, and cocaine as per [previous reporting](#); that is, where opioids, amphetamines and cocaine are deemed to be the underlying cause of death (e.g., opioid-induced deaths; **Panel A**). It is important to note many drug-induced deaths involve more than one drug (including alcohol), and sometimes it is not possible to determine one substance as the underlying cause of death.

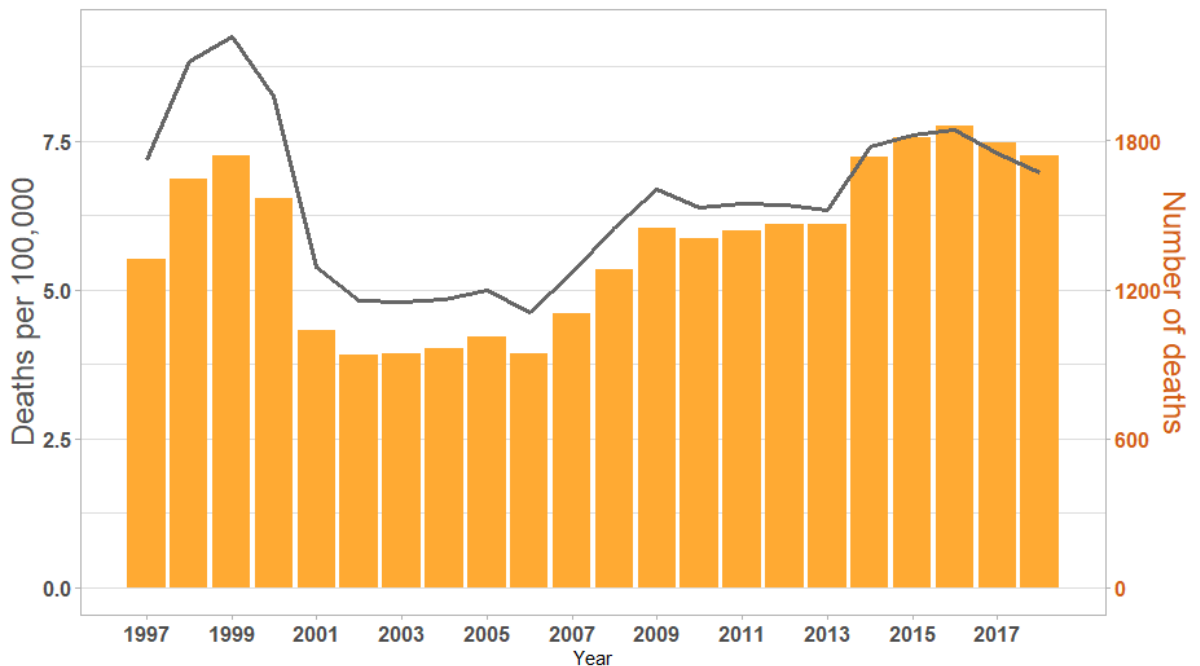
We have discussed select trends of interest in the panels (**Panel B**: trends in drug-induced deaths involving antipsychotic medicines and **Panel C**: trends in deaths involving heroin). An accompanying public [online interactive data visualisation](#) also allows viewers to disaggregate data in many different ways, and to download these images for their own use. This visualisation allows viewers to look at trends by drug, jurisdiction, sex, age group, remoteness and intent, and as numbers or rates per 100,000 or 1,000,000 population with associated confidence intervals.

## Findings

### Trends in Drug-Induced Deaths among Australians

In 2018, there were [1,740 deaths among Australians](#) (1,549 drug-induced deaths among those aged 15-64). This equates to [7.0 deaths per 100,000 Australians](#) (9.5 deaths per 100,000 people aged 15-64).

There was a peak in drug-induced deaths in the late 1990s, followed by a decline in the early-mid 2000s (**Figure 1**). Since 2006, drug-induced deaths in Australia have increased. The number of deaths recorded each year from 2014 to 2018 has been similar to the number observed during the earlier peak in deaths in the late 1990s. By contrast, the rate of drug-induced deaths (adjusting for changes in population size) was also high in 2018 but has not reached the level observed in the late 1990s (9.3 versus 7.0 deaths per 100,000 people in 1999 versus 2018).



**Figure 1. Rate (per 100,000 people) and number of drug-induced deaths in the Australian population, 1997-2018**

*Deaths where conditions related to alcohol or tobacco comprised the underlying cause of death are not captured here. Causes of death data for 2016, 2017 and 2018 are not final and subject to further revision.*

The estimated number of drug-induced deaths among Australians did not increase from 2017 to 2018 (1,795 versus 1,740 deaths or 7.3 deaths versus 7.0 deaths per 100,000 people). Estimates for these years may be subject to revision.

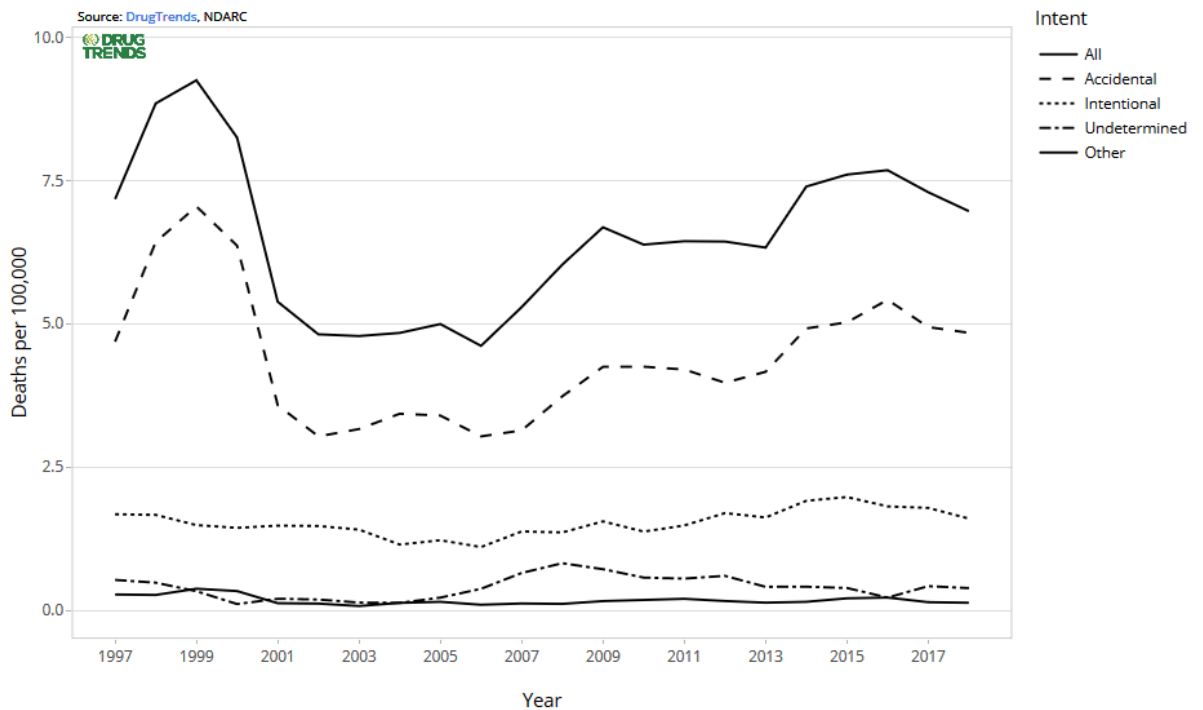
### Intent of Drug-Induced Deaths

In 2018, 70% of drug-induced deaths among Australians were considered accidental and 23% intentional (1,210 versus 400 deaths, respectively; [Figure 2](#)). The rate of accidental drug-induced deaths among Australians has been consistently higher than that of intentional deaths over the course of monitoring (4.8 deaths versus 1.6 per 100,000 people in 2018). Undetermined and other intents comprise the other 7% of drug-induced deaths in 2018.

### Age and Sex Profile of Drug-Induced Deaths

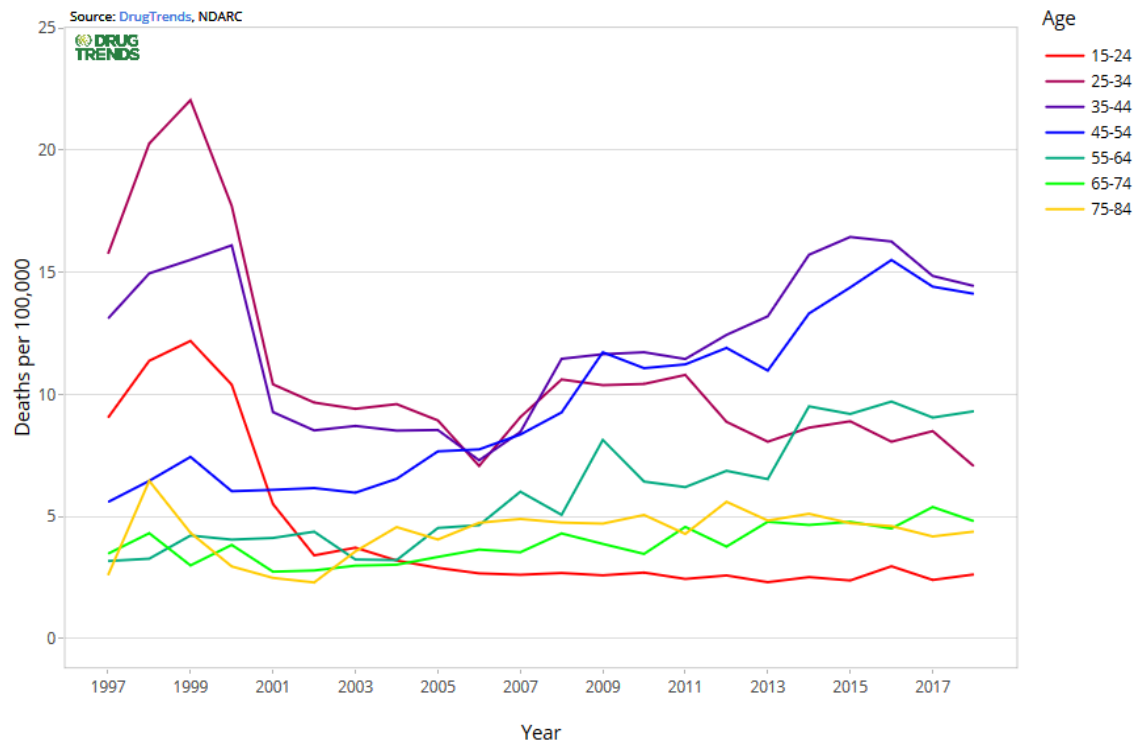
In 2018, men comprised a greater percentage of drug-induced deaths relative to women (64% versus 36%), with 1,116 drug-induced deaths among males and 624 deaths among females (9.0 deaths versus 5.0 deaths per 100,000 people). This distribution has been relatively consistent over time. The difference in the rate of drug-induced deaths between males and females lessens in older age groups.

Approximately three-in-four (76%) deaths among males were accidental in 2018 (17% intentional), while 57% of deaths among females were accidental (33% intentional). This is also consistent with historical data, with drug-induced deaths among females being more likely to be coded as intentional than deaths among males.



**Figure 2. Rate (per 100,000 people) of drug-induced deaths in the Australian population, by intent, 1997-2018**

Deaths where conditions related to alcohol or tobacco comprised the underlying cause of death are not captured here. Causes of death data for 2016, 2017 and 2018 are not final and subject to further revision.



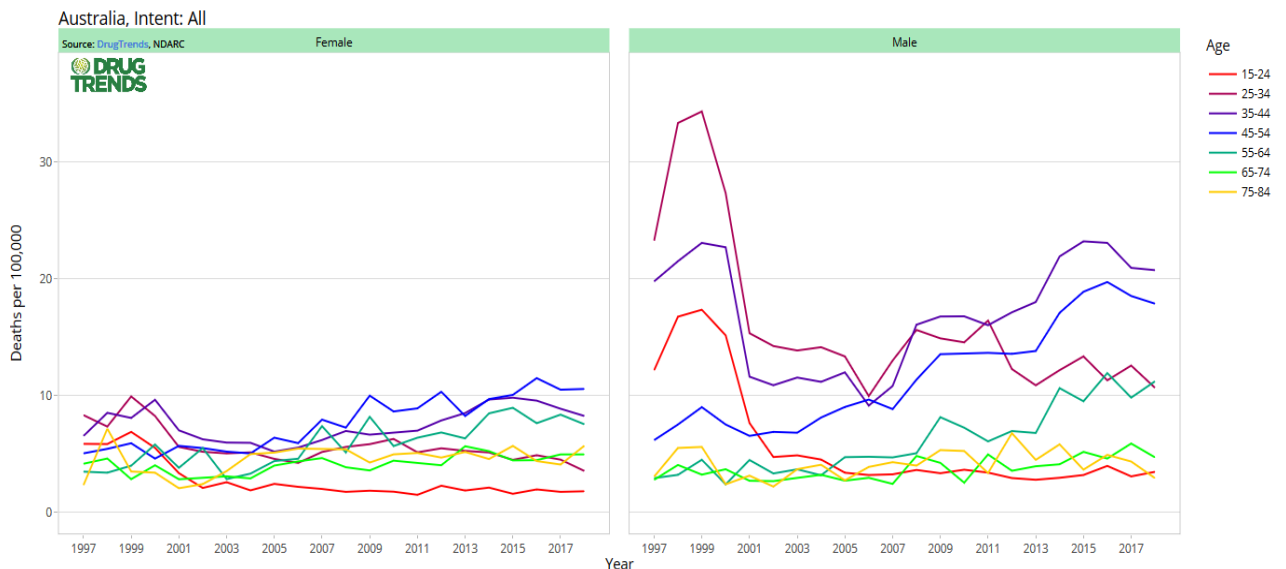
**Figure 3. Rate (per 100,000 people) of drug-induced deaths in the Australian population, by age group, 1997-2018**

Deaths where conditions related to alcohol or tobacco comprised the underlying cause of death are not captured here. Causes of death data for 2016, 2017 and 2018 are not final and subject to further revision.

In 2018, drug-induced deaths were most common among those aged 35-44 (14.4 deaths per 100,000 people) and aged 45-54 (14.1 per 100,000 people), and least common amongst those aged 15-24 years (2.6 deaths per 100,000 people).

This represents a shift over time ([Figure 3](#)). In the late 1990s, drug-induced deaths were driven by those in the younger age groups (e.g., 25-34 age group, followed by 35-44 age group). By contrast, the greatest increase over time was in the 45-54 age group (5.6 versus 14.1 deaths per 100,000 people in 1997 and 2018, respectively) and 55-64 age group (3.2 versus 9.3 deaths per 100,000 in 1997 and 2018, respectively).

When studying by age group and sex, there has been a similar shift to higher rates of drug-induced death among men in older age groups ([Figure 4](#)). Rates among women have also shown a similar but less pronounced shift. These age trends are also mostly driven by accidental deaths; there are no overtly distinguishable age trends for intentional deaths with the exception of increasing rates of drug-induced deaths amongst older age groups (i.e., those aged 45 and older).



**Figure 4. Rate (per 100,000 people) of drug-induced deaths for Australian males and females, by age group, 1997-2018**

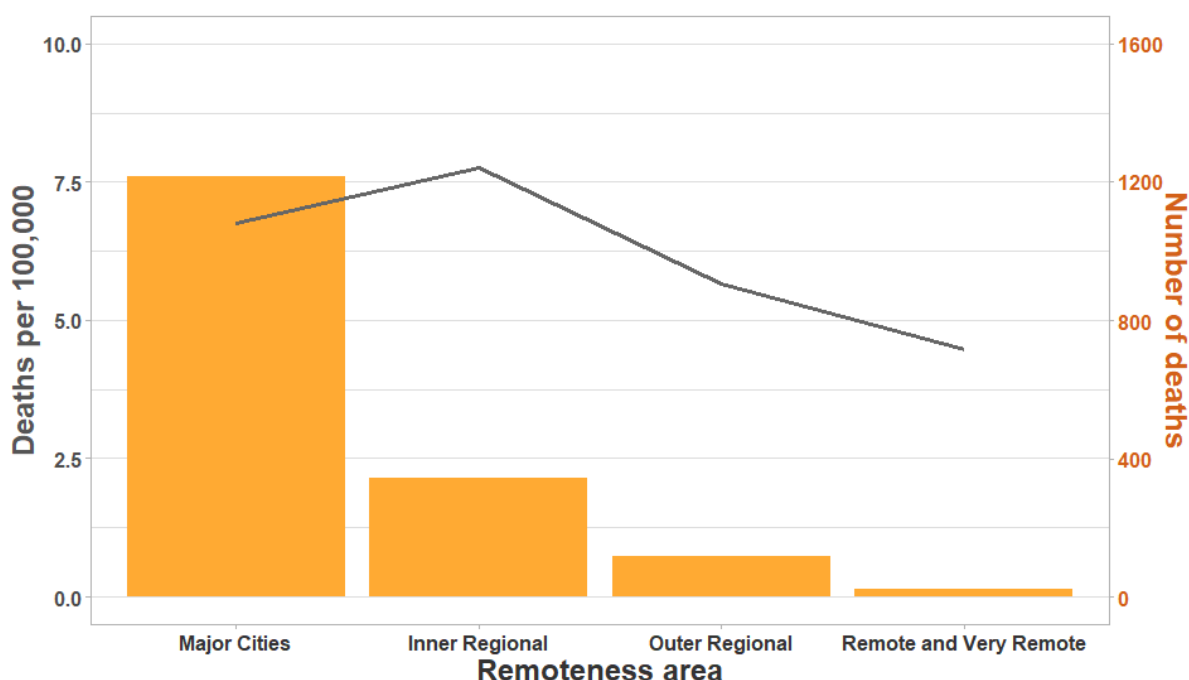
*Deaths where conditions related to alcohol or tobacco comprised the underlying cause of death are not captured here. Causes of death data for 2016, 2017 and 2018 are not final and subject to further revision.*

## Drug-Induced Deaths by Jurisdiction of Usual Residence and Remoteness Area

In 2018, the largest number of deaths was reported in New South Wales (525 deaths of which 388 were deemed accidental), followed by Victoria (403 deaths of which 292 were deemed accidental), and Queensland (358 deaths of which 223 were deemed accidental). Excluding Northern Territory, the rate of drug-induced deaths ranged between 6.3 and 9.9 deaths per 100,000 people.

The greater proportion of drug-induced deaths in 2018 occurred in [major cities \(72%, 1,217 deaths\)](#), followed by inner regional (20%, 345 deaths), outer regional (7%, 116 deaths), and remote/very remote (1.3%, 22 deaths) areas. These findings must be considered in the context of differences in population size across these areas. Indeed, the rate of total drug-induced deaths in 2018 was 7.8, 6.8, 5.7, and 4.5 deaths per 100,000 people in inner regional, major cities, outer regional and remote/very remote areas, respectively (**Figure 5**).

There are important jurisdictional differences between major city versus regional areas, with a higher rate of deaths in 2018 in major cities in Western Australia and South Australia, and in regional areas in New South Wales and Victoria. Disaggregation by remoteness is not presented for the Northern Territory, Tasmania and the Australian Capital Territory due to small numbers. See the [online interactive data visualisation](#) for further jurisdictional findings.



**Figure 5. Rate (per 100,000 people) and number of drug-induced deaths in the Australian population, by remoteness area, 1997-2018**

*Deaths where conditions related to alcohol or tobacco comprised the underlying cause of death are not captured here. Causes of death data for 2016, 2017 and 2018 are not final and subject to further revision.*

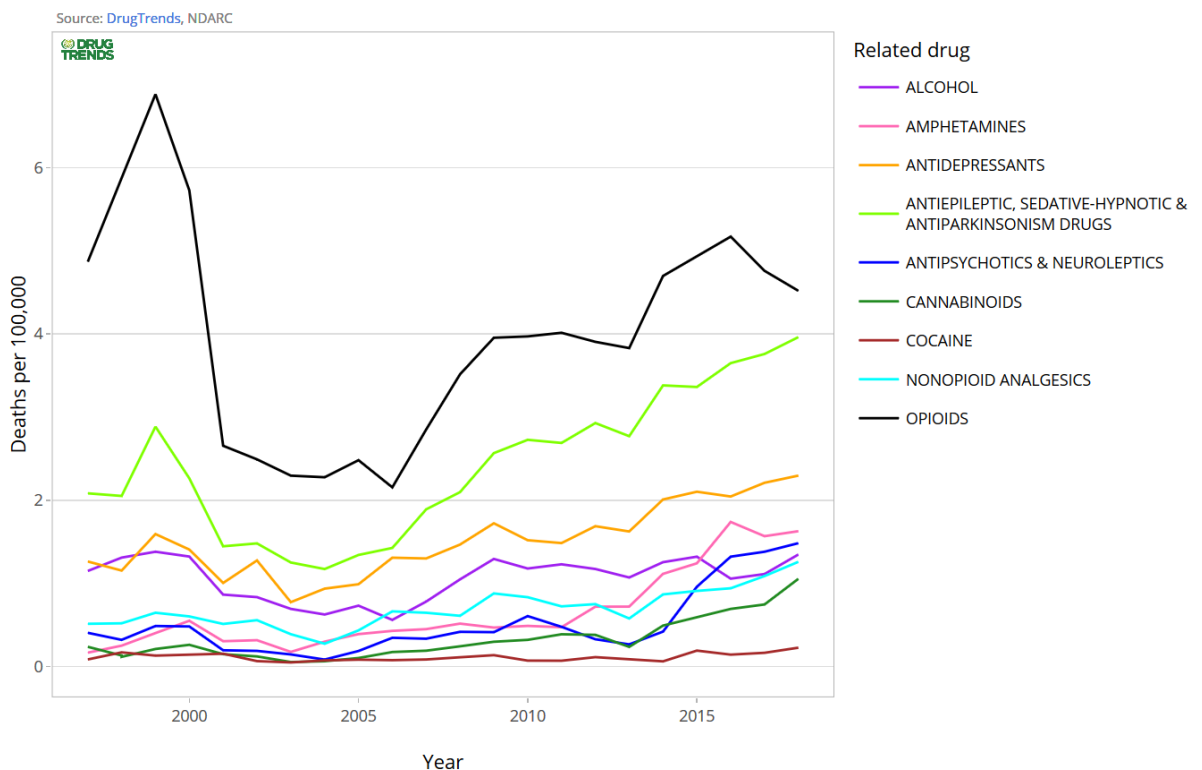
## Drugs Involved in Drug-Induced Deaths

The following findings relate to drugs identified in toxicology reports as being present in the person's system and deemed to be contributory to that death. There may be multiple drugs that contribute to a drug-induced death.

In 2018, opioids were the most common class of drug involved in drug-induced deaths (1,129 deaths, 4.5 deaths per 100,000 people; [Figure 6](#)). This was followed by antiepileptic, sedative-hypnotic and anti-parkinsonism drugs (990 deaths, 4.0 deaths per 100,000 people), which predominantly comprised benzodiazepines (883 deaths, 3.5 deaths per 100,000 people).



Other commonly cited drugs in 2018 included antidepressants (574 deaths, 2.3 deaths per 100,000 people), amphetamines (407 deaths, 1.6 deaths per 100,000 people), antipsychotics and neuroleptics (371 deaths, 1.5 deaths per 100,000 people), alcohol (337 deaths, 1.4 deaths per 100,000 people), non-opioid analgesics, antipyretics and antirheumatics (315 deaths, 1.3 deaths per 100,000 people) and cannabinoids (264 deaths, 1.1 deaths per 100,000 people). These rates are largely consistent when examining drugs involved in accidental deaths only in 2018.



**Figure 6. Rate (per 100,000 people) of drug-induced deaths in the Australian population, by drug type, 1997-2018**

*Note that one drug-related death may involve multiple drugs and that findings here reflect the rate of drug-induced deaths involving each drug (not necessarily attributed solely to that drug). Deaths where conditions related to alcohol or tobacco comprised the underlying cause of death are not captured here. Causes of death data for 2016, 2017 and 2018 are not final and subject to further revision.*

Whilst opioids continue to be the main drug cited in drug-induced deaths, there are increasing rates of drug-induced deaths involving other drugs. Rates of any drug-induced death (and of the subset of accidental drug-induced deaths) have remained relatively stable or increased from 2017 to 2018 for all drug classes except for opioids. These rates will likely only increase as coronial cases are closed and cause of death is finalised. Indeed, excluding opioids and alcohol, the rates for all deaths (and of the subset of accidental drug-induced deaths) have increased for all drug classes since the mid-to-late 2000s, and are now higher than observed in the late 1990s when there was a peak in drug-induced deaths.

Particular increases have been observed in the rate of deaths involving certain psychotropic medicines (see **Panel B**). For example, the rate of deaths involving benzodiazepines increased from 2008 to 2018 from 1.9 to a peak of 3.5 deaths per 100,000 people (402 to 883 deaths). It is important to note that these drugs may not necessarily be coded as the underlying cause of death and often occur in the context of polysubstance use. For example, 693 deaths in which opioids were deemed the underlying cause of death in 2018 also had benzodiazepines coded as a contributory cause of death. Similarly, there was a total of 171 drug-induced deaths identified in 2018 as involving ‘antiepileptic and sedative-hypnotic drugs unspecified’ (predominantly comprising pregabalin). Yet, 144 deaths in which opioids were deemed the underlying cause of death also had pregabalin coded as a contributory cause, suggesting that the majority of drug-induced deaths involving pregabalin arose in the context of opioid use.

### Deaths Attributed to Opioids

The following findings relate to ‘opioid-induced deaths’; that is, those directly attributable to use of opioids (e.g., from opioid overdose).

In 2018, there were 1,088 opioid-induced deaths among Australians (4.4 deaths per 100,000 people). This is compared to 1,227 and 1,153 opioid-induced deaths in 2016 and 2017 (5.1 and 4.7 deaths per 100,000 people), respectively, whilst noting that these numbers are subject to revision, and anticipated to increase as coronial cases are closed in the coming two years.

#### *Intent, age and sex of opioid-induced deaths*

The majority (81%, 876 deaths) of opioid-induced deaths in 2018 were considered accidental; 15% (168 deaths) were intentional; and a minority (4%, 44 deaths) deemed of undetermined intent. This pattern has been relatively consistent over recent years.

The rate of opioid-induced deaths has been consistently higher among men than women over time, with 6.0 versus 2.8 deaths per 100,000 people (741 versus 347 deaths) among males and females, respectively, in 2018. This pattern is also evident when studying specifically accidental opioid-induced deaths. By contrast, females have had a greater rate of intentional opioid-induced deaths relative to males in recent years (0.7 versus 0.6 deaths per 100,000 people in 2018, respectively), although this has varied over time.

In 2018, the rate of opioid-induced deaths was highest for Australians aged 35-44 years (10.0 per 100,000 people, 333 deaths). The lowest rates remain among Australians younger than 25 or older than 65 years. Particular increases have been observed in the rate of opioid-induced deaths among the 45-54 and 55-64 age groups over the last 10 years of monitoring.

### Panel B. Involvement of antipsychotics in drug-related deaths in Australia

Various antipsychotic medicines are listed under the Pharmaceutical Benefits Scheme for subsidy for the treatment of certain psychiatric conditions including psychosis and bipolar disorder. Prescribing of antipsychotics (e.g., quetiapine, olanzapine, risperidone) has increased over time in Australia, and there are reports of certain medicines being used off-label for indications where the evidence balancing benefits/risks is less clear (e.g., use of quetiapine to manage insomnia and anxiety). Extra-medical use (i.e. use outside the bounds of a doctor's prescription) and associated harms (e.g., overdose) have been documented.

Our analyses show that the rate of drug-induced deaths involving 'antipsychotic and neuroleptic medicines' remained relatively low until 2014, ranging between 0.3 and 0.6 deaths per 100,000 people (**Figure B**). The rate then increased to a peak of 1.5 deaths per 100,000 people in 2018, with 371 deaths involving antipsychotic and neuroleptic medicines recorded in that year. This trend was driven by 'other and unspecified antipsychotics' (predominantly comprising quetiapine). In 2018, there were 262 deaths attributed to opioids where 'antipsychotic and neuroleptic medicines' were coded as an associated cause of death, suggesting that combined use of these substances was common.

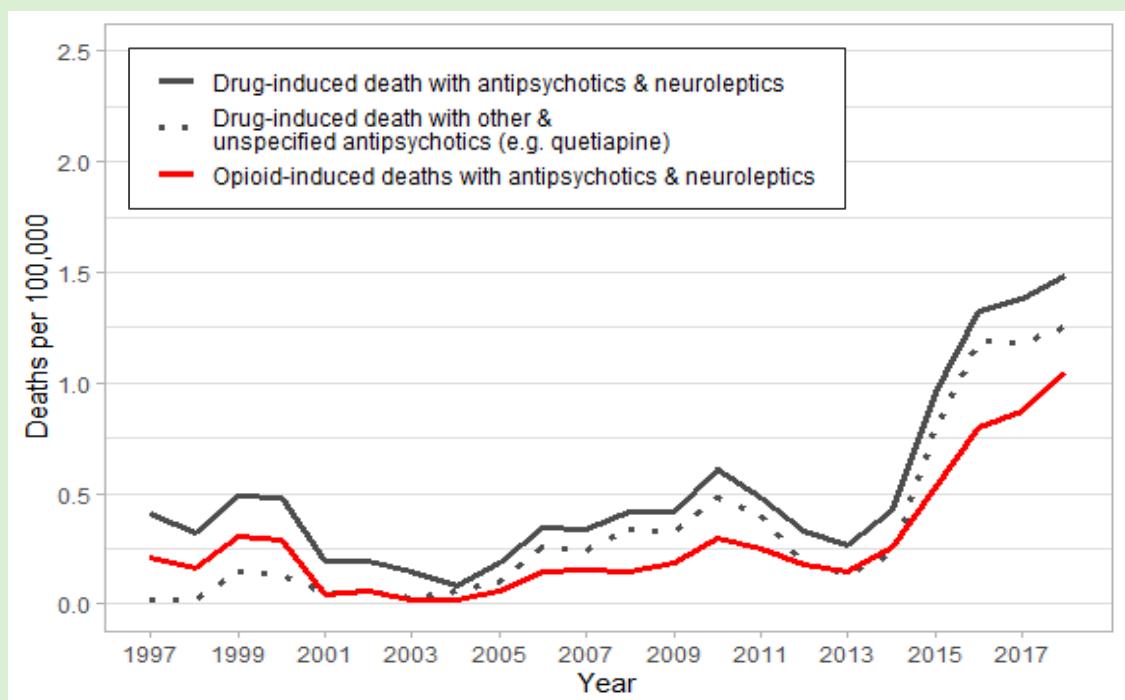


Figure B. Rates (per 100,000 people) of drug-induced deaths involving antipsychotic medicines and of opioid-induced deaths involving antipsychotic medicines among Australians, 1997-2018

These rates are not adjusted for prescribing trends. Regardless, these findings highlight the need to ensure people are aware of the risks associated with use of antipsychotic medicines (particularly when consumed with opioids). Strategies to reduce harm must be weighed against the risk of restricting access to those who require these medicines, namely those with psychosis or bipolar disorder.

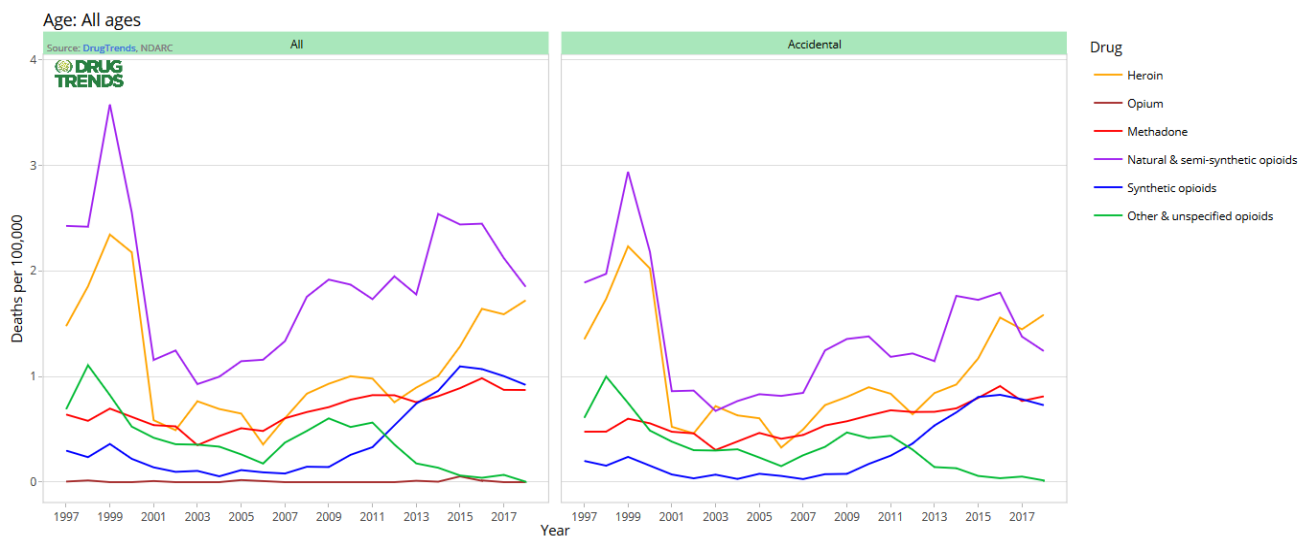
### Types of opioids and other drugs involved in opioid-induced deaths

In 2018, 30% (322 deaths) of opioid-induced deaths were attributed to illicit opioids only (e.g., heroin, opium), 60% (655 deaths) were attributed to pharmaceutical opioids only (including methadone), and 10% (108 deaths) to both pharmaceutical opioids and illicit opioids. This represents an increase since 2014, when 17% of deaths were attributed to illicit opioids only, 75% to pharmaceutical opioids only, 5% to illicit and pharmaceutical opioids, and the remaining 3% to other and unspecified opioids.

In 2018, there were 462 opioid-induced deaths involving natural and semi-synthetic opioids (e.g., morphine, codeine, and oxycodone), 430 deaths involving heroin, 230 deaths involving synthetic opioid opioids (e.g., fentanyl, tramadol, pethidine), and 218 deaths involving methadone (these numbers are not additive as multiple opioids may be involved in a single opioid-induced death). This is equivalent to rates of 1.9, 1.7, 0.9, and 0.9 deaths per 100,000 people, respectively.

Natural and semi-synthetic opioids (e.g., morphine, oxycodone) have historically been the most commonly cited opioids in opioid-induced deaths. This has changed over the past two years. The rate of deaths involving heroin has converged on the rate and, in the case of accidental deaths, exceeded the rate observed for natural and semi-synthetic opioids ([Figure 7](#); see **Panel C**). Indeed, there were 1.6 accidental deaths involving heroin versus 1.2 accidental deaths involving natural and semi-synthetic opioids per 100,000 people (396 versus 310 deaths) in 2018.

There had been an increase in the rate of deaths involving synthetic opioids over the past decade, although preliminary estimates do not support a further increase in 2017 and 2018.



**Figure 7. Rate (per 100,000 people) of opioid-induced deaths in the Australian population, by intent and opioid type, 1997-2018**

*Opioid-induced deaths comprised deaths where the underlying cause of death indicates a substance-use disorder or direct harm specific to opioids. Note that one opioid-induced death may involve multiple opioids. Causes of death data for 2016, 2017 and 2018 are not final and subject to further revision.*

### Panel C. Trends in heroin-related deaths in Australia

There has been recent concern around increasing use and harms associated with heroin in Australia, particularly in certain areas. Whilst analyses of [drug seizure and arrest data](#) suggest the heroin market remains small and stable, [wastewater analyses](#) show an increase in heroin from August 2017 to April 2019 (with some variation), and particular increases in capital cities in Victoria and New South Wales. Research with [sentinel samples of people who inject drugs](#) shows notable differences in the use of heroin across samples drawn from different capital cities but also that around 12% of people sampled in 2019 reported a past 12-month non-fatal heroin overdose. There is also evidence of [increasing](#) heroin-related ambulance attendances in certain jurisdictions.

The current data from Australia show that there were 438 drug-induced deaths that involved heroin in 2018; heroin was deemed the underlying cause of death in 430 of these cases.

The rate of opioid-induced deaths involving heroin has increased by 2 times in the past decade from 0.8 deaths per 100,000 people in 2008 to 1.7 per 100,000 in 2018. This equates to a difference or an increase by 0.9 deaths per 100,000 people. This is the highest change in the ten years from 2008 to 2018 among the opioid types reported in this bulletin. The rates of heroin and of natural and semi-synthetic opioid death have converged, and the [percentage of deaths](#) involving heroin only relative to pharmaceutical opioids only has increased in recent years.

There are also important jurisdictional differences to acknowledge. In 2018, rates of drug-induced deaths involving heroin occurred at 3.2 deaths per 100,000 people (82 deaths) in [Western Australia](#), 2.6 deaths per 100,000 people (167 deaths) in [Victoria](#), 1.3 deaths per 100,000 people (105 deaths) in [New South Wales](#) and 1.0 deaths per 100,000 people (49 deaths) in [Queensland](#). Tasmania, South Australia, the Australian Capital Territory and the Northern Territory recorded 20 or fewer drug-induced deaths involving heroin in 2018.

There is [under-reporting](#) of deaths involving heroin in the data used here. We also encourage the reader to view [recent work](#) exploring characteristics of pharmaceutical opioid versus heroin-induced deaths in Australia.

These findings, however, reinforce the necessity of close ongoing monitoring of heroin use and associated harms in Australia. They also highlight the need to proactively [maximise coverage](#) of known effective interventions to reduce overdose risk (e.g., opioid agonist treatment, naloxone provision), and to [move away](#) from strategies shown to increase harm (e.g., criminalisation of drug use).

## Deaths Attributed to Amphetamines

There were 99 amphetamine-induced deaths among Australians in 2018 (0.4 deaths per 100,000 people). The rate of amphetamine-induced deaths increased substantially from 2011 (22 deaths, 0.1 deaths per 100,000 people) to 2016 (106 deaths, 0.4 deaths per 100,000 people). The preliminary estimates of amphetamine-induced deaths in 2017 and 2018 do not represent a further increase on this rate (0.4 per 100,000 people in both years, or 94 and 99 deaths, respectively).

Data provided do not allow for reliable disaggregation of deaths due to methamphetamine versus 3,4-methylenedioxymethamphetamine (MDMA).

## Deaths Attributed to Cocaine

In 2018, there were fewer than 20 cocaine-induced deaths among Australians. This low number is consistent with previous years.

## Funding

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## Acknowledgements

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## Recommended citation

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## Related Links

- Deaths data visualisations: [https://drugtrends.shinyapps.io/deaths\\_2018](https://drugtrends.shinyapps.io/deaths_2018)
- Deaths methods document: <https://ndarc.med.unsw.edu.au/resource/trends-drug-induced-deaths-australia-1997-2018>
- For information on drug-related hospitalisations in Australia, go to: <https://ndarc.med.unsw.edu.au/resource/trends-drug-related-hospitalisations-australia-1999-2018>
- For more information on NDARC research, go to: <http://ndarc.med.unsw.edu.au/>
- For more information about the ABS, go to: <http://www.abs.gov.au>
- For more information on ICD coding go to: <http://www.who.int/classifications/icd/en/>
- For more research from the Drug Trends program go to: <https://ndarc.med.unsw.edu.au/program/drug-trends>

## Contact us

Email: [drugtrends@unsw.edu.au](mailto:drugtrends@unsw.edu.au)